PCS edventures!™

RubIQ™

FLIGHT MANUAL & BUILD PLAN

For more information about the contents of your kit and how to get started, follow the link or scan the QR code to check out the Discover Drones Overview Video.

PCS edventures!™

FLIGHT MANUAL & BUILD PLAN

Get ready to meet RubiQ, your modular, open-source training drone! She'd get up to shake your hand, but as you can see, she's a little out of sorts right now. That's where you come in. This guide includes your step-by-step instructions for piecing RubiQ together. Follow them in reverse to disassemble. This kit includes all the parts and tools needed for assembly, along with a few spares for any accidents along the road. Once RubiQ is built, visit rubiq.edventures.com to access her online *Configuration Guide*. From there, you'll need to have the following standing by in order to get RubiQ off the ground:

Battery: Any high-quality 3S 35C+ LiPo (*2000-2500 mAh recommended)*

Radio: Rubi's receiver is compatible with FrSky radios

FPV Goggles: Rubi's video transmitter is compatible with any 5.8 GHz goggles

LiPo Compatible Balance Charger: Any

All these items are included in the full Discover Drones package and can be purchased, along with any spare parts, at edventures.com/collections/drones

DISCLAIMER:

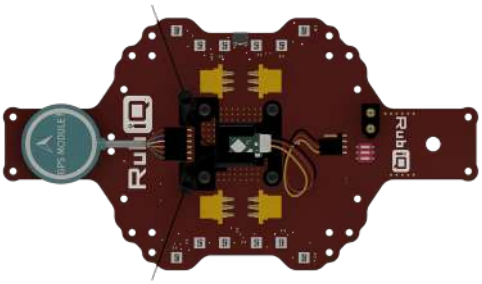
CAUTION

- Drones are powerful and can be dangerous — RubiQ is no exception. Flying requires experience and thorough knowledge of flight safety. Only start flying after proper training and with a full understanding of the drone regulations in your area.
- When cared for properly, LiPo batteries provide the reliable, lightweight power that makes multirotor flight possible. However, LiPo batteries pose a severe fire hazard if improperly charged or poorly maintained. Review all battery warnings and instructions carefully, and follow all safety procedures when handling LiPo batteries.
- There's always a slight chance that RubiQ's motors could spin unexpectedly, causing bodily harm. Play it safe: remove her props when inside and disconnect the battery whenever possible!
- Be sure the video antenna is attached whenever you connect the LiPo battery! Powering up any drone without an antenna may cause permanent damage to the VTX (video transmitter).

PCS Edventures accepts no responsibility, or liability, for any injury, or damage, to persons or property, caused by the use of RubiQ, radio transmitters, FPV goggles, LiPo batteries or LiPo battery chargers. PCS Edventures also accepts no responsibility for damage caused to RubiQ by operating without a TX antenna installed or by connecting cables in an improper configuration.

INVENTORY

To build RubiQ, you'll need:



Power Distribution Board (PDB)
(Qty 1)

Lower Chassis
(Qty 1)

FPV Camera
(Qty 1)

Camera Brackets & M2x5 Camera Screws
(Qty 2)

Arms
(Qty 4)

CW Motors
Clockwise (Black Wire)
(Qty 2)

CCW Motors
Counterclockwise (Red Wire)
(Qty 2)

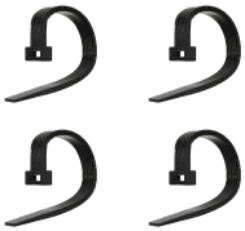
M3x6 Screws
(Qty 28)

Silver M3x7 Motor Screws
(Qty 16)

M3x12 Screws
(Qty 12)

12mm Standoffs
(Qty 4)

25mm Standoffs
(Qty 15)



Zip Ties
(Qty 4)

Battery Plate Foam &
Battery Plate
(Qty 1)

Battery Strap
(Qty 1)

VTX Antenna
(Qty1)

Props
(Qty 4)

Prop Nuts
(Qty 4)

RX Antenna Tubes & Caps
(Qty 2 ea)

EXTRA PARTS:

- M3x6 Screws
- M3x7 Motor Screws
- M3x12 Screws
- 12mm Standoffs
- 25mm Standoffs
- Zip Ties
- Props
- Prop Nuts

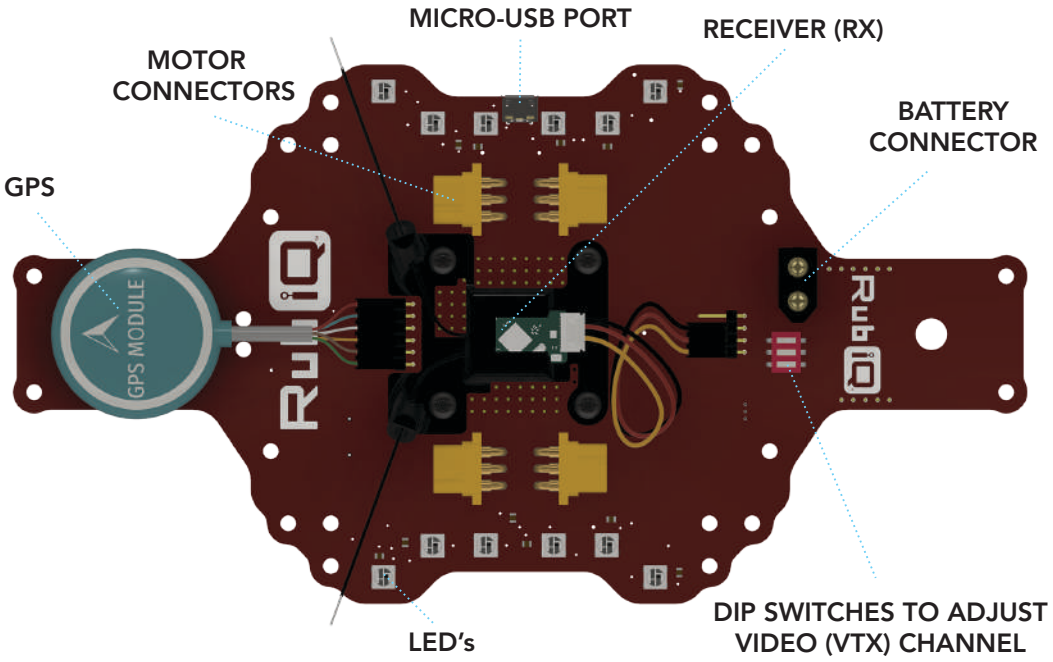
LEGEND:

FLIP

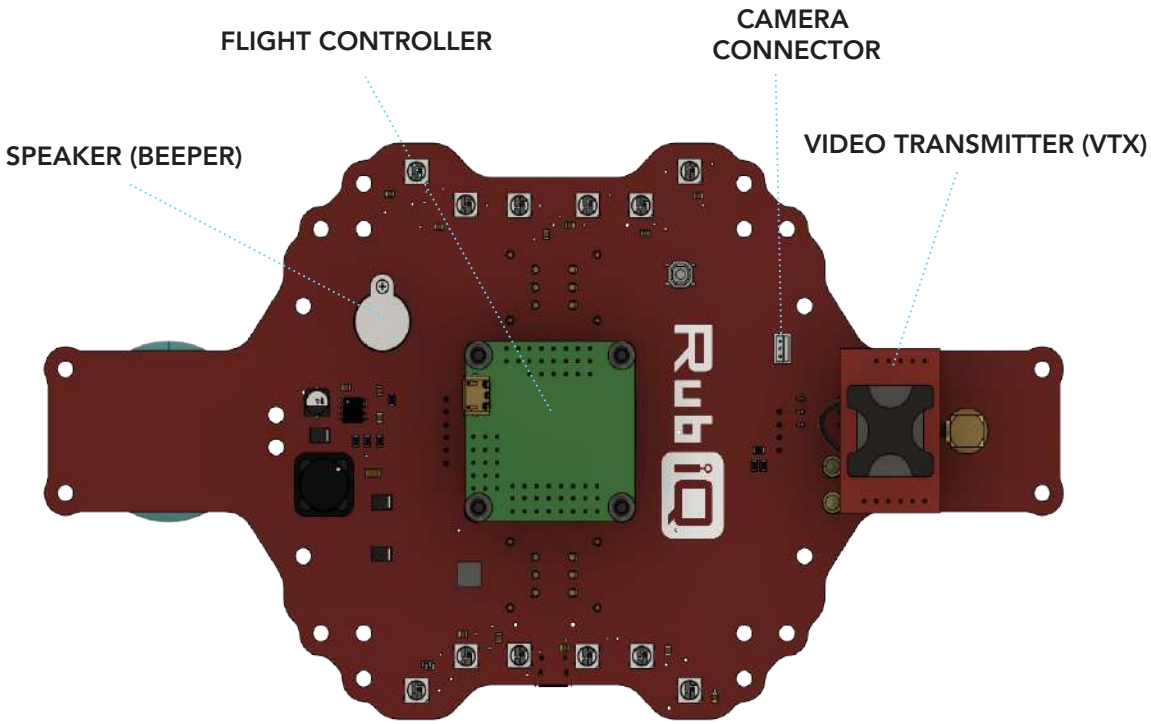
REPEAT 2 TIMES

POWER DISTRIBUTION BOARD (PDB)

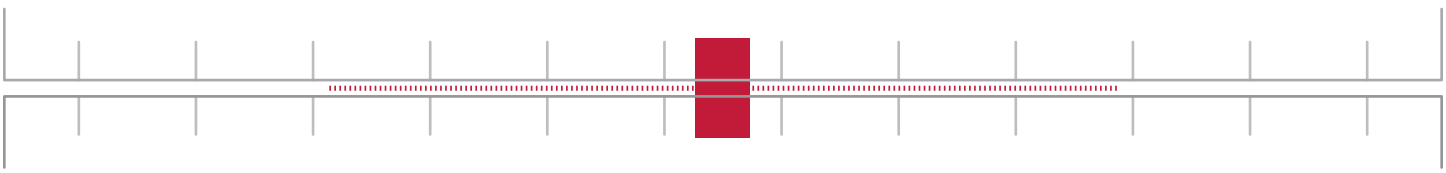
TOP VIEW:



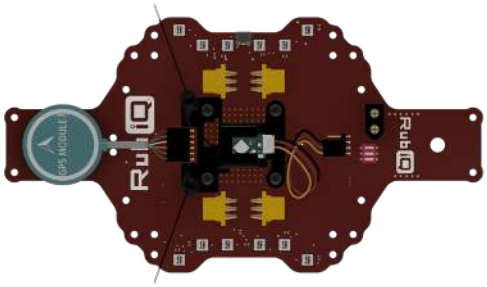
BOTTOM VIEW:



BUILD PLAN & CONFIGURATION GUIDE



PARTS



Power Distribution Board (PDB)

RX (Receiver) Antenna Tubes & Caps

ASSEMBLY

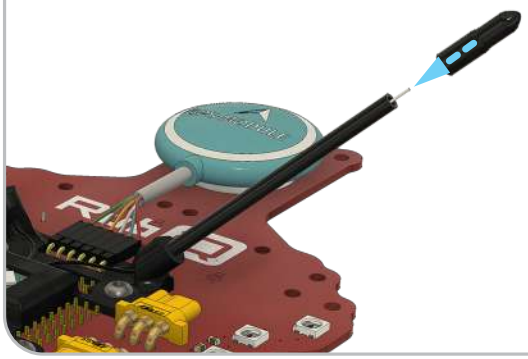
CAUTION

Handle the RX antennas with care. DO NOT pull on the antennas. Too much tension will cause the wire to separate and permanently damage the RX.

1

x2

2



x2

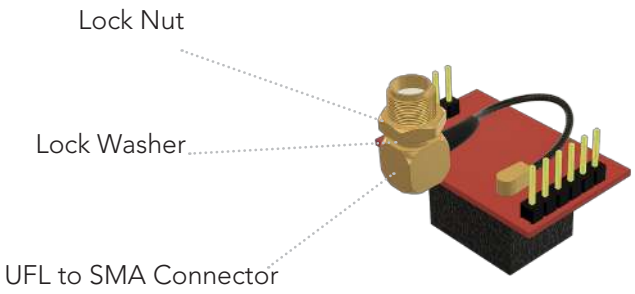
3

PARTS

2

The VTX is delicate and has been pre-installed.

Review this step in case you need to replace your VTX.

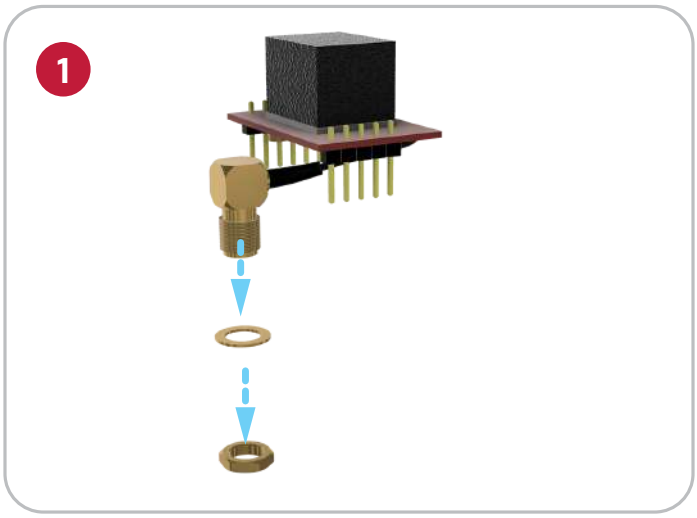


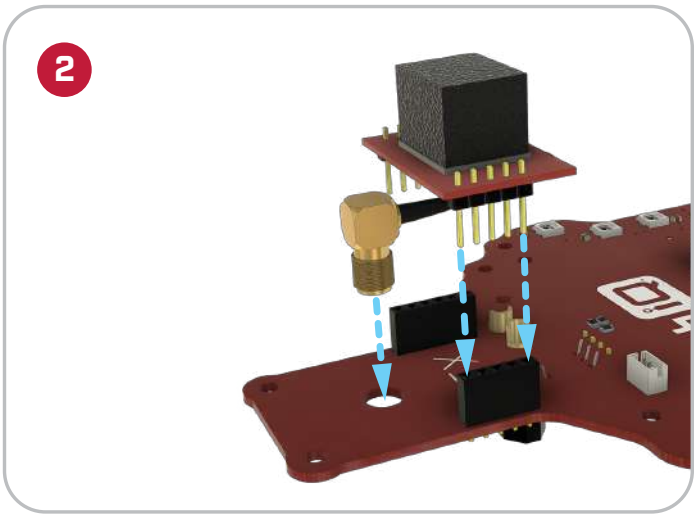
Video Transmitter (VTX)

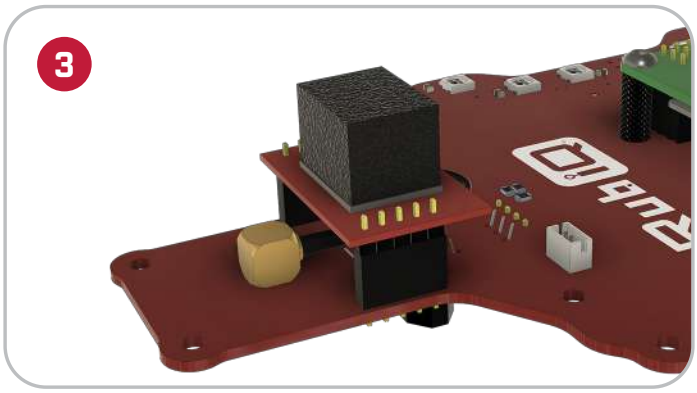
ASSEMBLY

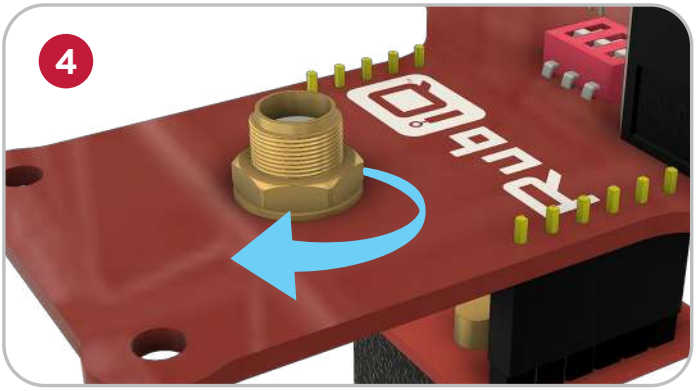
CAUTION

Orient the VTX so each pin slides into its own connector. One side of the VTX has 5 pins, while the other has 6 pins. If there are any pins hanging outside of the connector, reverse the orientation of the VTX. Failure to do so will result in the loss of FPV video feed.









CAUTION

Hold the square portion of the UFL to SMA Connector below the board and tighten the nut with the prop wrench until snug. To avoid damaging the cable, do not allow the UFL to SMA Connector to twist as you tighten the nut. Do not overtighten the nut, as this will strip the threads.

PARTS

3

Camera Brackets

FPV Camera

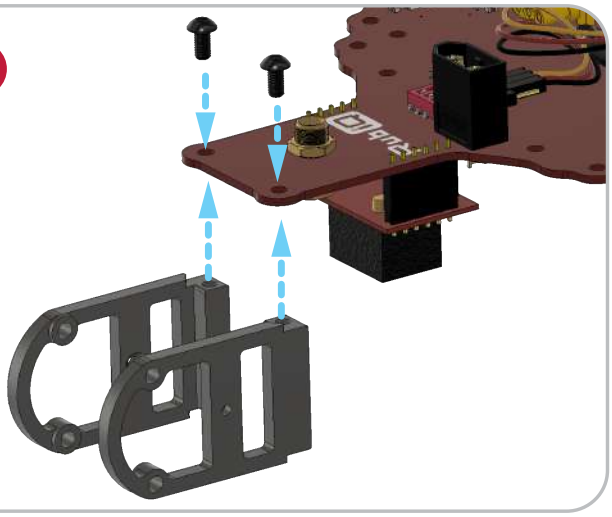
M3x6 Screws

ASSEMBLY

CAUTION

Make sure there is no gap between the camera brackets and the PDB. Carefully line up each bracket before attaching the screws. Then, make sure the brackets remain flush with the board while attaching the screws. Attach all screws as firmly as possible to keep the frame stable during flight.

1



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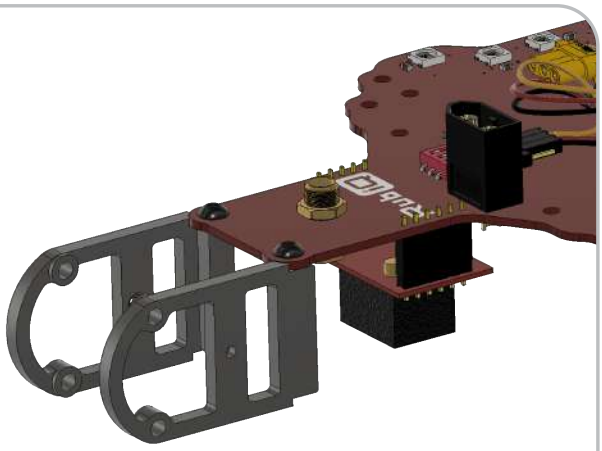

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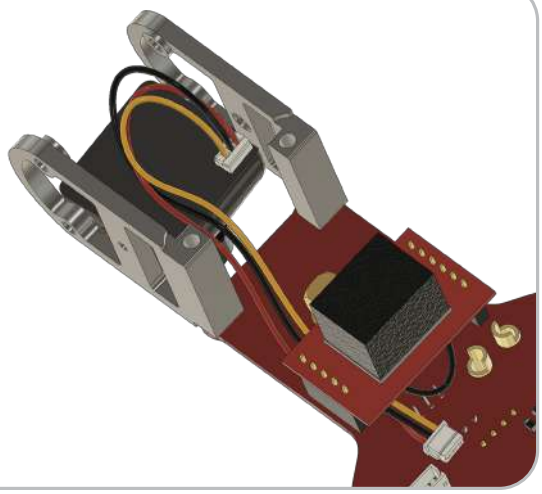


Be sure to plug in the camera cable exactly as shown in the diagram:

Yellow Cable = Video

Black Cable = GND (Ground)

Red Cable = 5V (5 Volt)

If the wires do not match this order, disconnect both ends of the cable and reverse the orientation of the cable.

PARTS

25mm Standoff

M2x5 Camera Screws

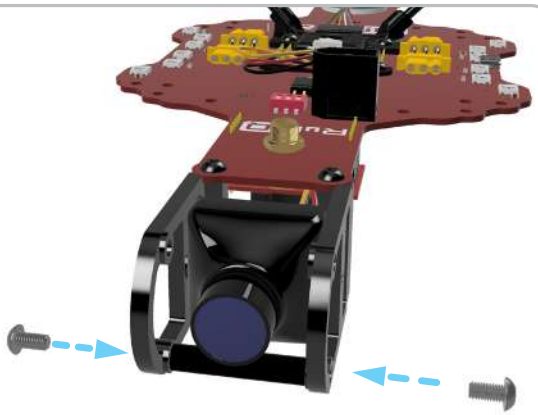
Silver M3x7 Motor Screws

ASSEMBLY

CAUTION

Attach the FPV camera so that the wires are near the top, close to the PDB. This will ensure that the camera is in the proper orientation. If installed incorrectly, the FPV video feed will be upside-down.

1



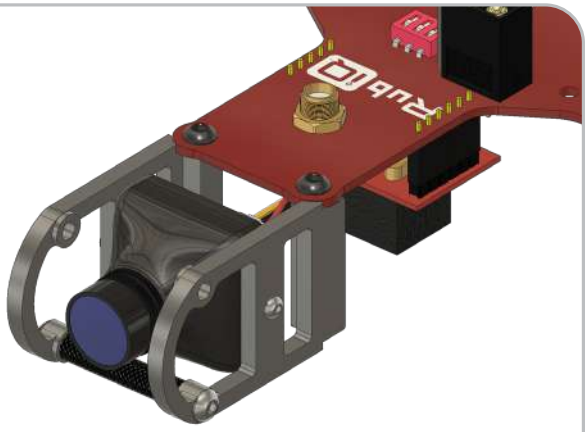
Use the included 2 mm hex driver to attach the silver motor screws.

2

3

Use the included 1.5 mm hex driver to attach the camera screws. Do not overtighten to avoid stripping threads.

4



PARTS

CW Motors
Clockwise (Black Wire)

CCW Motors
Counterclockwise (Red Wire)

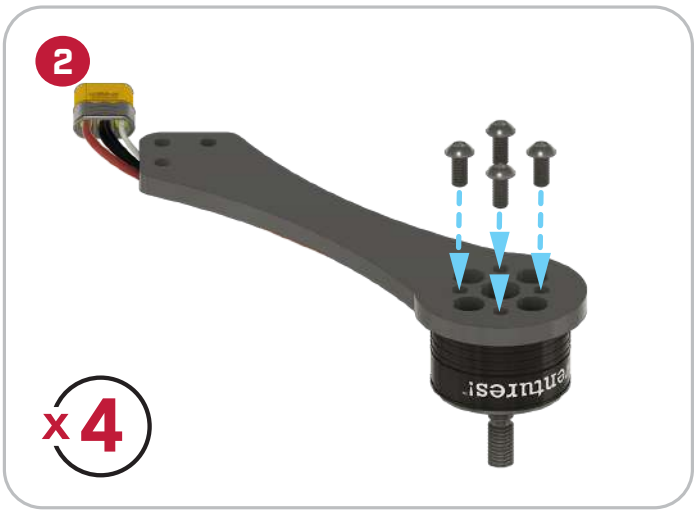
Arms

Silver M3x7 Motor Screws

ASSEMBLY

CAUTION

Motors only attach to one side of the arms. Visually line up the mounting holes in the arms with the mounting holes in the motors before inserting screws to ensure motors are attached to the correct side of the arms. Be sure to tighten screws in an X pattern until they are snug, as motors sustain intense vibration during flight.



PARTS

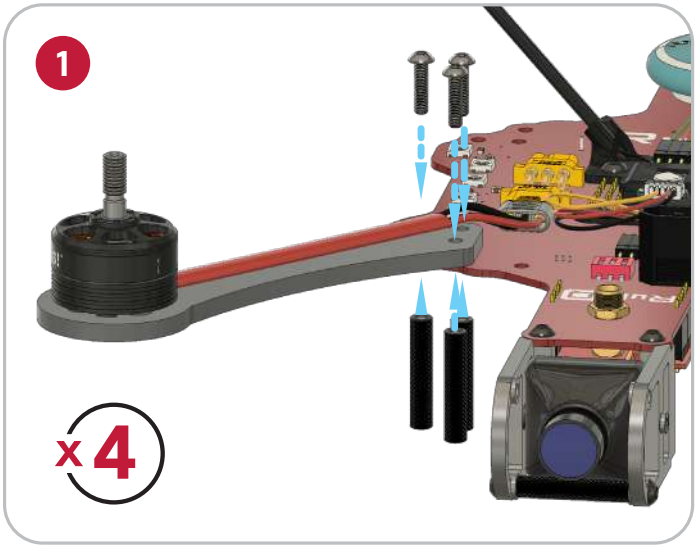
CW Motors
Clockwise (Black Wire)

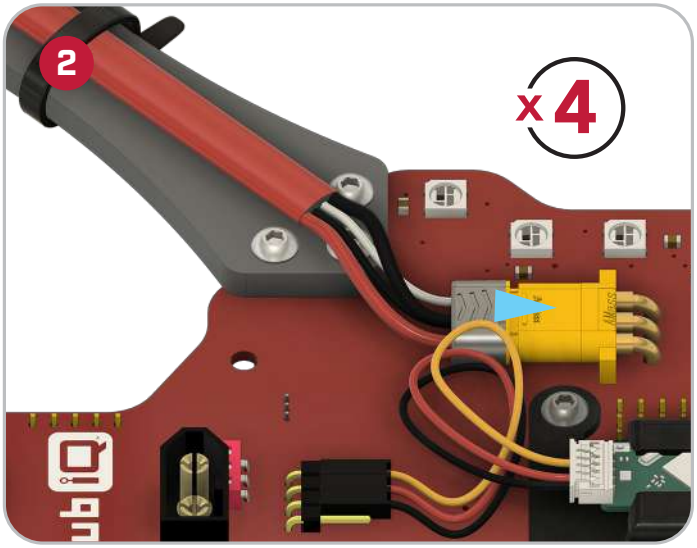
CCW Motors
Counterclockwise (Red Wire)

25mm Standoffs

M3x12 Screws

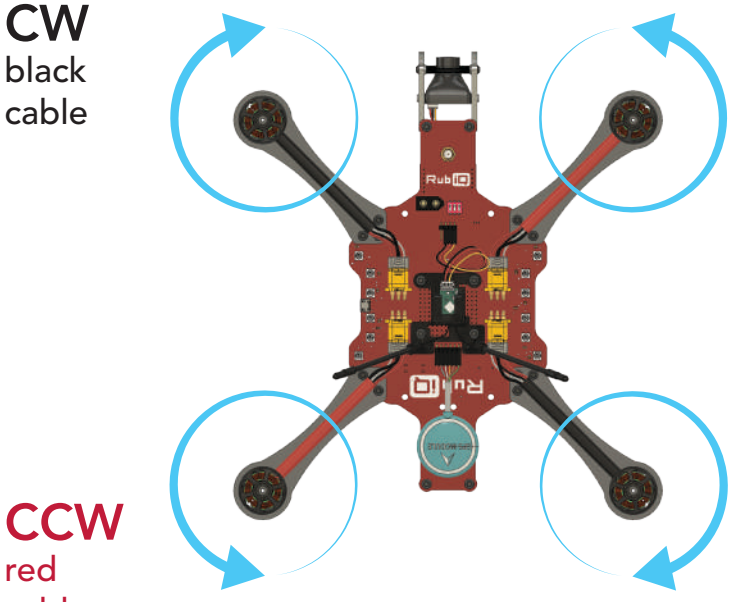
ASSEMBLY





CAUTION

Install all four arms as shown, with matching cables diagonal to each other to avoid erratic behavior in flight.



PARTS

7

Zip Ties

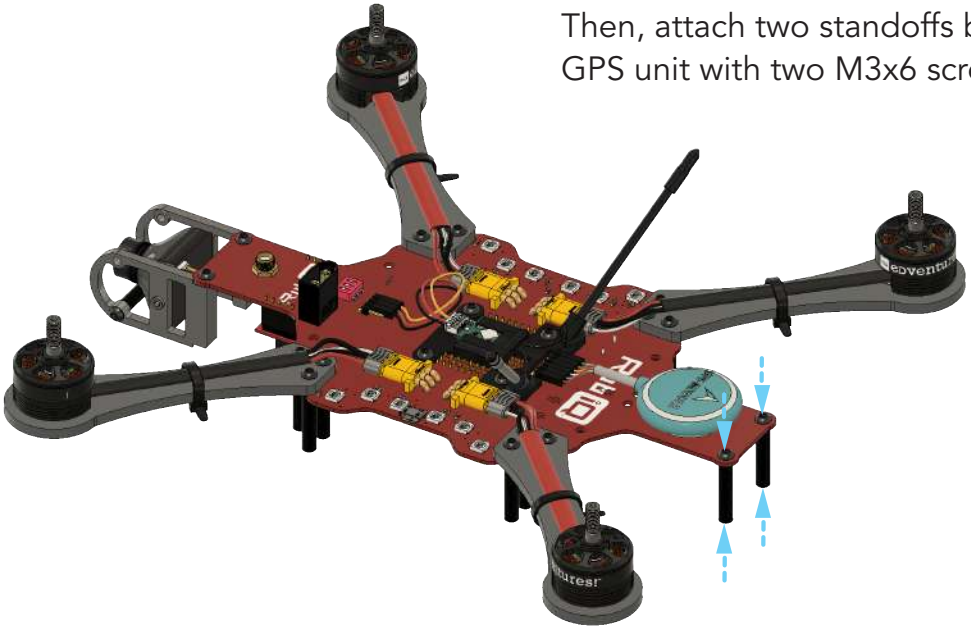
25mm Standoffs

M3x6 Screws

ASSEMBLY

After tightening the zip ties, carefully trim off the excess using wire cutters, scissors or a similar cutting tool.

2



Then, attach two standoffs below the GPS unit with two M3x6 screws.

PARTS

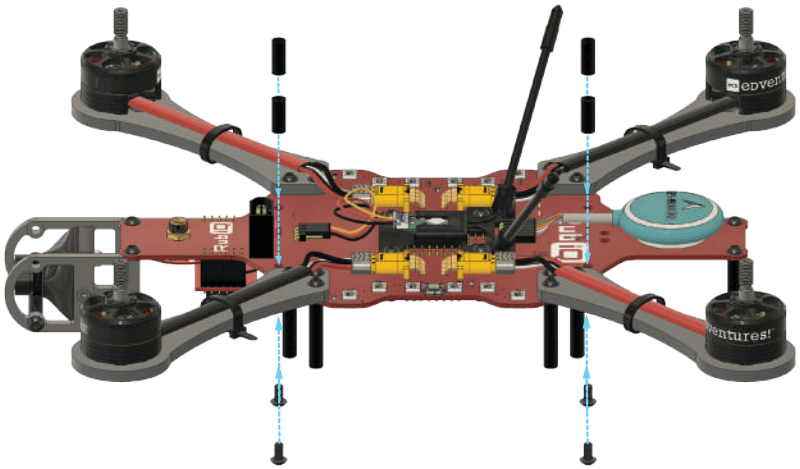
8

12mm Standoffs

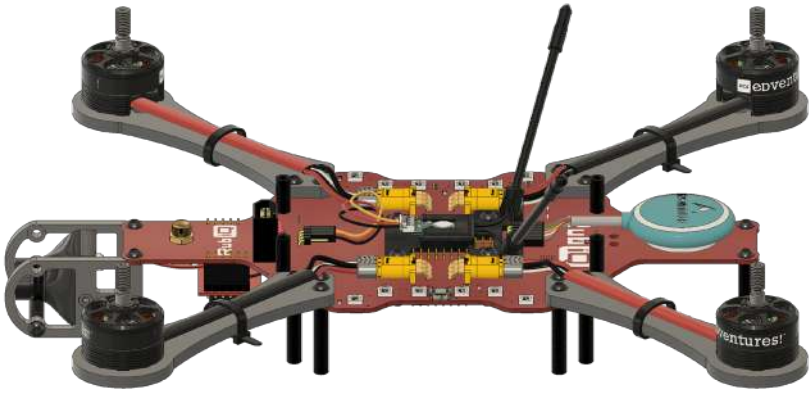
M3x6 Screws

ASSEMBLY

1



2



PARTS

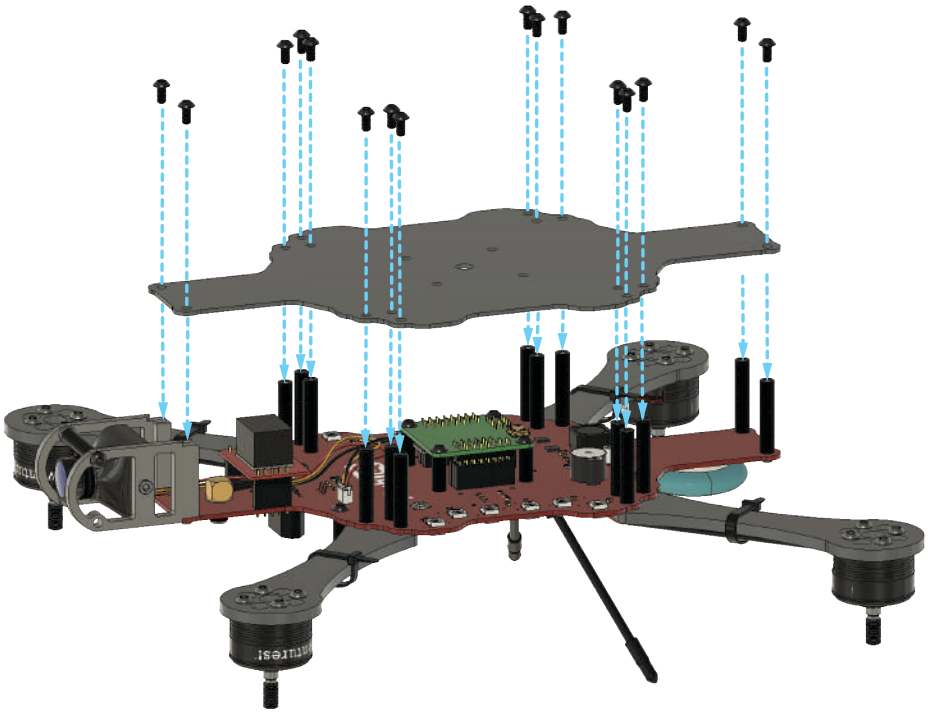
9

Lower Chassis

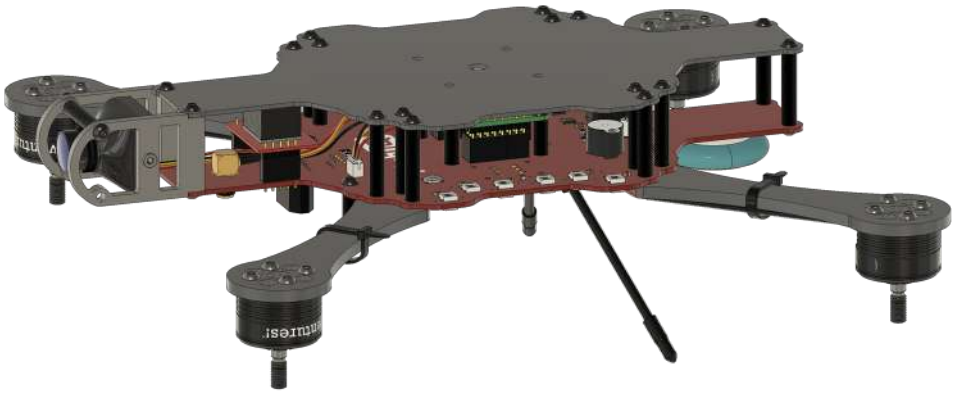
M3x6 Screws

ASSEMBLY

1



2



PARTS

10

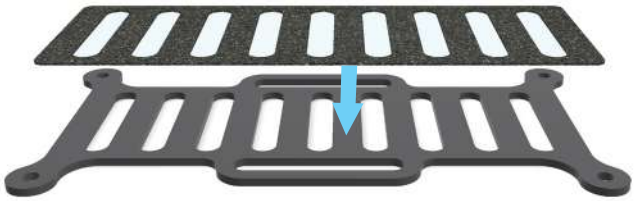
Battery Plate Foam & Battery Plate

Battery Strap

M3x6 Screws

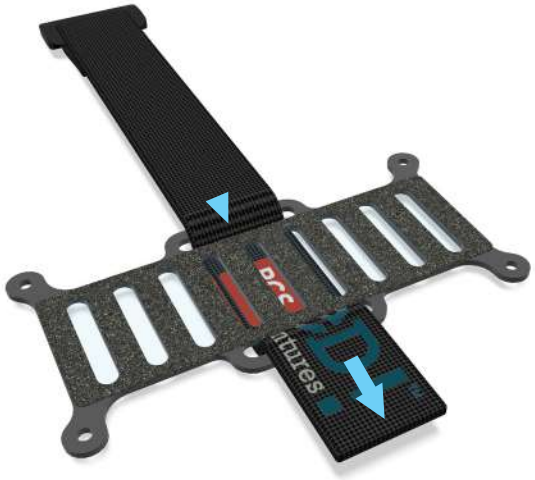
ASSEMBLY

1



The battery plate foam may be pre-installed if RubiQ has been built before.

2



3

4

PARTS

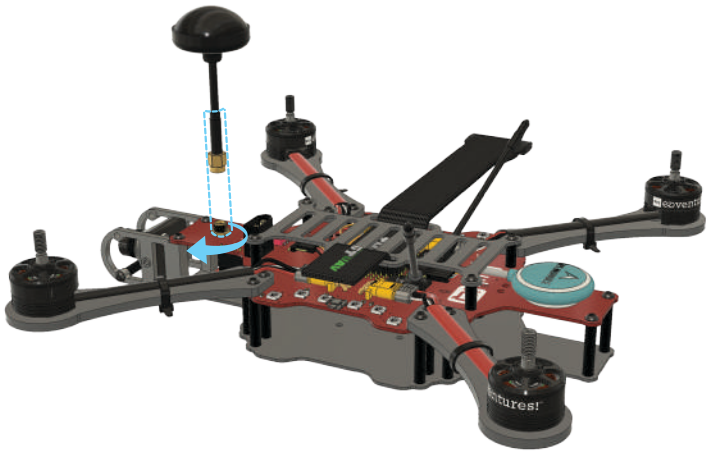
VTX Antenna

ASSEMBLY

CAUTION

Always attach the VTX antenna before connecting RubiQ to power to avoid permanently damaging the VTX.

1



2

POST-BUILD INSPECTIONS

CAUTION

Make sure the VTX is properly installed so that none of the pins are exposed (see Step 2).

CAUTION

Make sure the VTX antenna base has been securely fastened with a wrench (see Step 2).

CAUTION

Make sure the camera cables exit from the top of the camera, close to PDB (see Step 4).

CAUTION

Make sure the arms with CCW (red) and CW (black) motor cables are installed in their proper positions, with matching colors diagonal from each other (see Step 6).

CAUTION

Always make sure props are removed before connecting to the battery indoors.

CAUTION

Always wear safety glasses when connecting the battery.

PARTS

Battery

ASSEMBLY

Always charge and store LiPo batteries inside a fireproof container.

FIRE RISK

CAUTION

Tighten battery strap as firmly as possible to avoid shifting during flight.

CAUTION

To unplug the battery, hold onto the battery connector and pull straight up; DO NOT pull directly on the wires and DO NOT wiggle the battery connector side to side when removing it from the board. Side to side motion will weaken the connection between the battery and the board.

CONFIGURATION GUIDE

COMPONENTS




CONFIGURATION

Visit rubiq.edventures.com, click on *Configuration* in the top right corner of the page and begin the RubiQ configuration process.

Step 1. Bind the RX to the Radio Controller & Set the Failsafe.

Step 2. Verify RX Channels & Failsafe.

Step 3. Verify AUX Channels.

Step 4. Verify Switches.

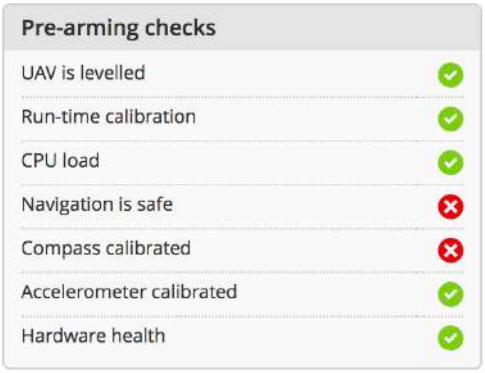
Step 5. Verify LEDs.

Step 6. Verify Motor Rotation.

Step 7. Calibrate ESCs.

Step 8. Calibrate Accelerometer.

Step 9. Set Magnetic Declination.



At the end of a successful configuration, the RubiQ Configurator's Pre-arming Checks, found in the Setup tab, will show all categories with a green checkmark except for "Compass Calibrated" and "Navigation is safe." This is for two reasons:

- The compass needs to be calibrated outside as part of the pre-flight check.
- RubiQ requires a GPS lock in order to arm the motors and fly. Navigation is safe indicates the GPS lock status, which defaults to red until a lock has been achieved. See Step 7 of the Pre-Flight Checklist for further information about GPS lock.

Follow the *Pre-Flight Checklist* on the following page to fully prepare RubiQ for liftoff.

For support, visit: rubiq.edventures.com/support

PRE-FLIGHT CHECKLIST

BEFORE HEADING OUTSIDE

- Are you aware of and in compliance with all local and federal regulations?
- Are the weather conditions safe for flight?
- Do you have emergency equipment, including a first aid kit and means of fire suppression?

OUTSIDE

CAUTION

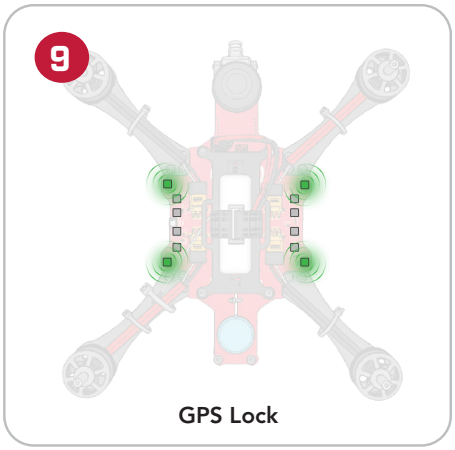
Do not attach props until Step 7 of the Pre-Flight Check. Remove the props if they are already attached.

1. **Check that the flight field is clear of hazards that would make it unsafe to fly.**
2. **Make sure everyone is wearing protective glasses.**
3. **Ensure all screws and components are securely fastened to the drone.**
4. **Strap the LiPo battery to the battery plate** (see Step 12 of the Build Plan). Tuck the balance cables under the battery strap or between the battery cables, so they're protected during flight.
5. **Make sure the drone and the radio are bound.** Power on the radio controller and connect the battery to RubiQ. Look for a solid green LED on RubiQ's RX or flip the beeper switch to test the connection. Make sure all radio controller switches face away from you. The SD switch specifically will prevent you from arming if Position Hold or Return to Home is activated. These features can only be used after RubiQ has been armed for flight.

CALIBRATE COMPASS

6. **Calibrate the compass.** Move the radio's sticks to the position shown. When the drone starts beeping, release the sticks and spin the drone with each of its six sides facing down. You'll have 30 seconds before the beeping stops and the calibration is completed.
7. **Unplug the battery and attach your props.** (see Step 13 of the Build Plan.)
8. **Set RubiQ on a flat launch surface at the "Home" position then reconnect the battery.** The "Home" position for Return to Launch is set when the drone is armed. The accelerometer and gyro sensors calibrate automatically each time they are connected to power. You must have RubiQ on a level surface during power-up to ensure that the onboard sensors are properly calibrated for safe flight.

9. **Wait for GPS lock.** In order to arm, RubiQ's GPS module must achieve what is known as a GPS lock. GPS lock is achieved when the GPS module has a sufficiently strong connection to the satellites in your area. As RubiQ begins to connect to satellites, the four corners will blink green and count out the number of satellites to which RubiQ is connected. Until you have heard the beep tones that signal a successful GPS lock, you will not be able to arm the motors or fly. *Note: it is not uncommon for the GPS lock process to take 5-10 minutes.*



GPS Lock

10. **Make sure everyone is a safe distance from the drone.**

11. **Check the failsafe.** It should be set to disarm the motors if the drone ever flies out of range and loses connection to the radio. To test the failsafe settings, arm RubiQ. While the motors are spinning, power down the radio to simulate losing connection. RubiQ should stop her motors. *If the motors continue to spin, reset the failsafe and repeat this step. (see Step 3 of the Configuration Guide* at rubiq.edventures.com.)

12. **Conduct an initial flight test.** Power on the radio controller and communicate with all observers before arming the drone and during lift-off. Arming the drone sets the "home" position for Return to Launch.

    - Start in Angle Mode and lift off a few feet from the ground. Test that the drone responds to throttle as expected.
    - Activate Altitude Hold and make sure the drone maintains its distance from the ground. Test that the drone responds to pitch, yaw and roll as expected.
    - Activate Position Hold. Without any additional stick input, RubiQ should be able to maintain a hover.
    - Deactivate Position Hold, fly a short distance away and then trigger Return to Home to make sure the GPS is functioning as expected. If RubiQ returns to the "home" position as expected, she's ready to fly. *If you encounter issues with Position Hold or Return to Home,* re-calibrate the compass, check your magnetic declination in the RubiQ Configurator and attempt the flight test again.

13. **Set your desired flight modes**. After RubiQ has passed the initial flight test, adjust the radio switches to set the flight mode. (See Field Notes section for recommended options.) *Note: RubiQ will not arm if Position Hold or Return to Home is active. Ensure both features are turned off prior to arming.*

After landing, make sure you have throttled down, disarmed the motors and set aside the radio controller before approaching the drone. Unplug the LiPo battery before powering down the radio controller to avoid triggering the drone's failsafe. If the radio is shut down first, Rubi thinks she's lost radio connection and will steadily beep until a radio connection is restored.

Something not working right? Visit rubiq.edventures.com/troubleshooting/ for tips to address common challenges.

RUBIQ POST FLIGHT INSPECTION

CAUTION

Disarm the drone before the inspection.

1. Check the LEDs for any warning messages, then disconnect the battery. Inspect the LiPo battery for any serious physical damage, such as punctures or puffiness, which would require replacing the battery.
2. Remove all props and check for any that are bent, nicked or broken. These will need to be replaced before the next flight.
3. Check that all exposed wires are intact. If any have been nicked, wrap them with electrical tape and order replacement parts, if necessary.
4. With the hex driver, confirm that screws are still firmly attached and tighten any that feel loose.
5. Inspect RubiQ's other physical components, including:
   - *Arms, PDB, Frame and Camera Mount:* Look for cracks or other signs of a hard impact.
   - *Camera, VTX Antenna and VTX:* make sure the threaded portion of the UFL to SMA connector is still snugly attached to the VTX antenna, that the VTX is still connected and fully seated, and with the props still removed, plug in the battery to make sure the FPV goggles are still receiving video feed from the camera.
   - *Motors:* Use your hand to rotate each of the motors to ensure that they spin freely. There should be no rough spots or grittiness, typically due to dirt or other debris entering the motor. If you encounter any grit, use a blast of air to clear out the motor. If the grittiness persists, the motor may need to be replaced.
6. Charge the batteries and securely re-attach props and batteries before the next flight.

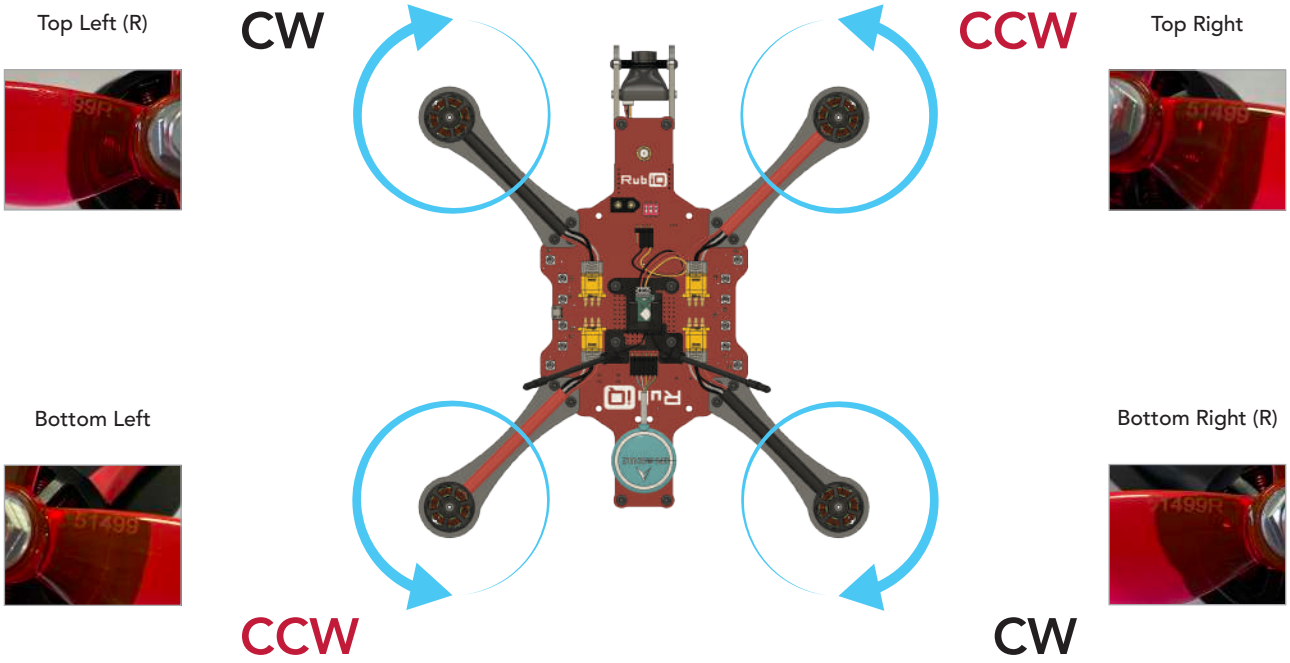
Props

Prop Nuts

ASSEMBLY

CAUTION

Keep props off when building or configuring the drone.



Do not use the color of a propeller to determine its function.
Instead, check the coding printed on each propeller to pair CW and CCW props with the corresponding motor assembly. ####R = CW, #### = CCW. The numbers will vary, but the key is whether or not the coding ends with R.

ASSEMBLY

CAUTION

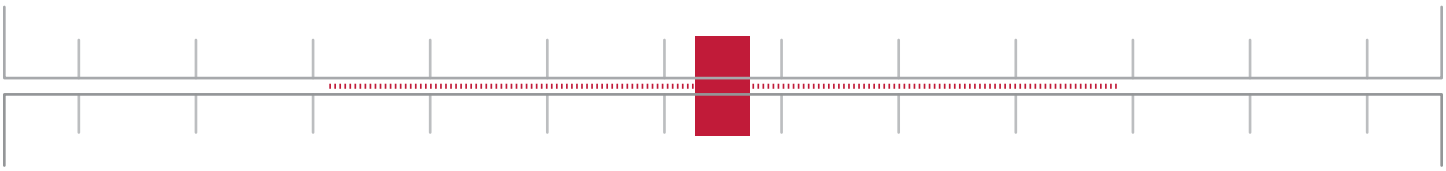
Attach prop nuts as firmly as possible. If the props spin independently from the motors, they aren't tight enough.

1

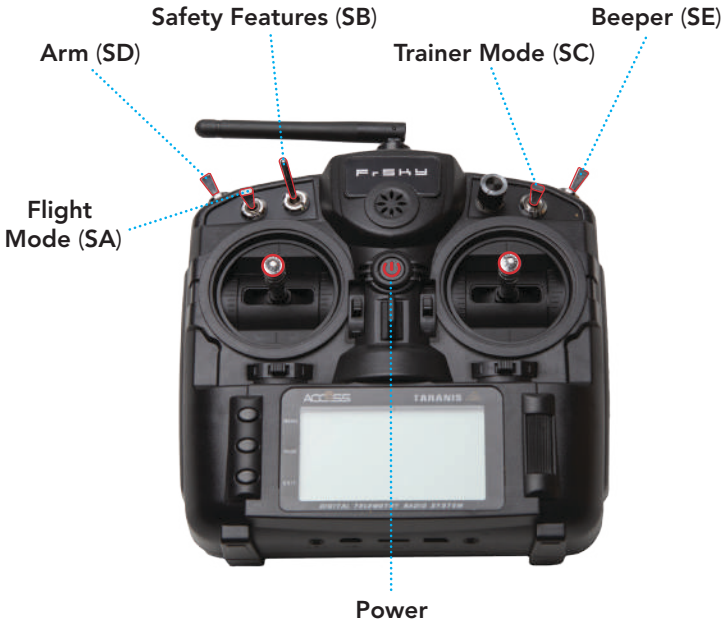
2

RubiQ™

FIELD NOTES

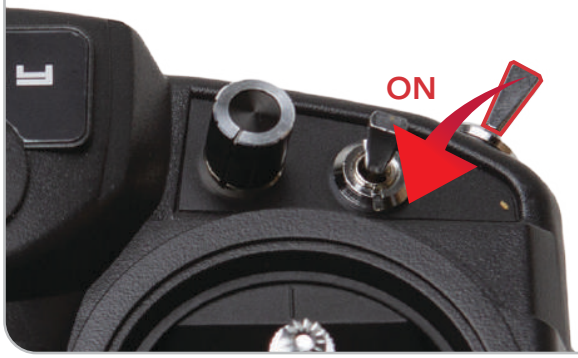


RADIO CONTROLS

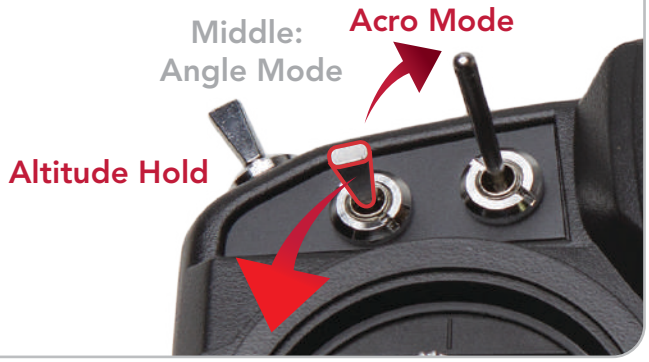


ARM (SD)

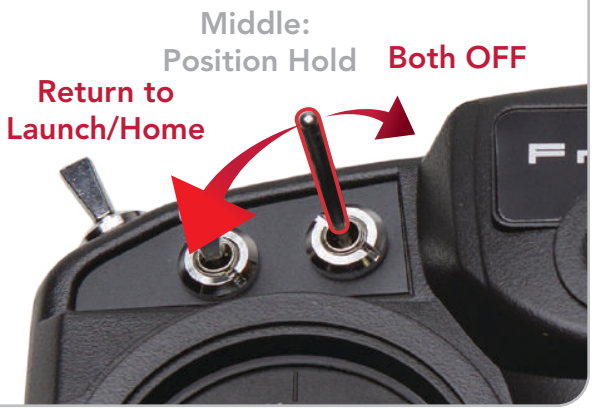
BEEPER (SE)



FLIGHT MODE (SA)



SAFETY FEATURES (SB)



FLIGHT MODES

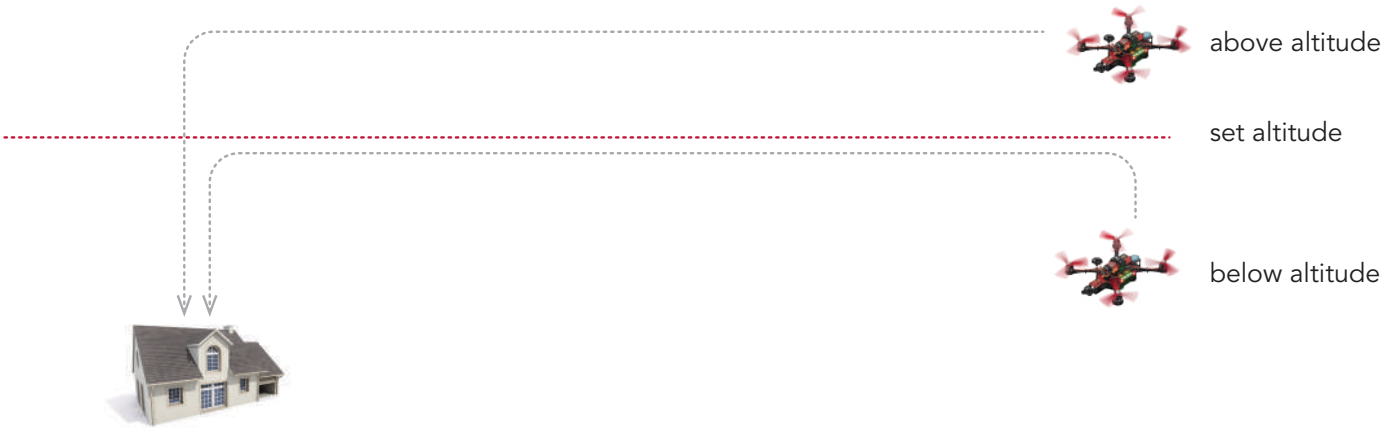
ACRO MODE/RATE MODE: allows for acrobatic FPV piloting. This mode requires full manual control since it does not auto-level and is only recommended for advanced pilots.

ANGLE MODE: is an assisted, self-leveling mode for beginner pilots.

ALTITUDE HOLD: allows the drone to maintain a constant altitude. When this mode is triggered, it takes the current throttle position as a hovering point. Moving the throttle above and below that position will still cause the drone to move up and down, but the climb and descent rate is noticeably slower than in Angle or Acro mode. If Altitude Hold is triggered when the throttle stick is too low (such as when the drone is on the ground), the flight controller will set the neutral throttle position to the middle position, so that moving the sticks above center causes the drone to climb and moving the sticks below center makes the drone descend.

POSITION HOLD: allows the drone to maintain a horizontal position. Combined with Altitude Hold for the Z axis, Position Hold can create a 3D lock. Roll and pitch can still be used to maneuver the drone, but when the sticks return to center, the position hold will resume. Like Altitude Hold, the slower rates in Position Hold create a gentle flight mode for first-time pilots.

RETURN TO HOME/RETURN TO LAUNCH: allows the drone to autopilot itself back to the "home" position, the place where the drone was armed. If the drone is below 10 meters/32 ft when Return to Home is triggered, it will climb, fly straight to the "home" coordinates, descend and land itself. Above 10 meters/ 32 ft, Rubi will stay at her current altitude as she flies to the "home" coordinates, then descend and land. Manually disarm the drone once it's on the ground.



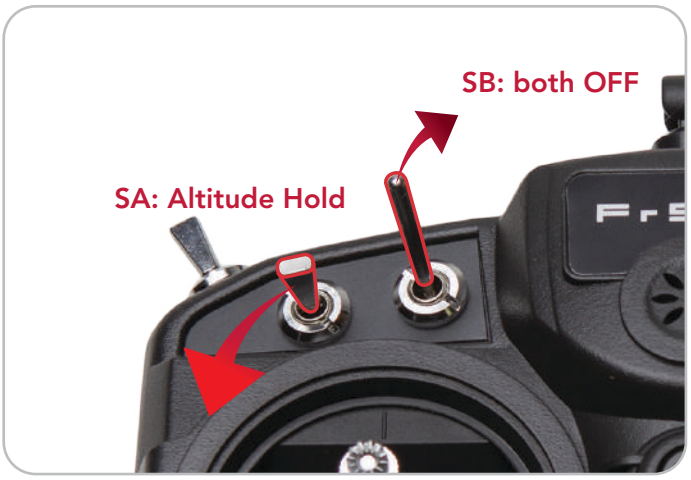
Rubi can be armed in any of the three primary flight modes: Acro, Angle or Altitude Hold. The other two modes, Position Hold and Return to Home, can only be activated after she has been armed.

CAUTION

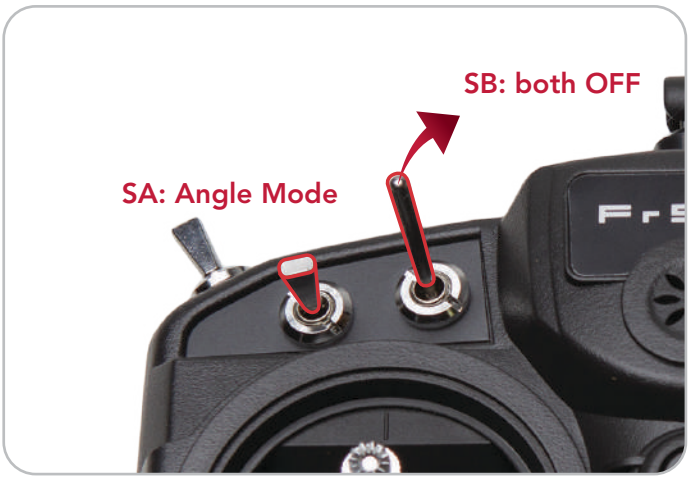
FAILSAFE:

The default failsafe, which will activate if the drone ever flies out of range or the radio powers down mid-flight, is for the drone to shut off its motors rather than fly away uncontrolled. Keep in mind that if you lose connection to your radio, your drone will drop out of the sky, so never fly over people, buildings or property that could be damaged.

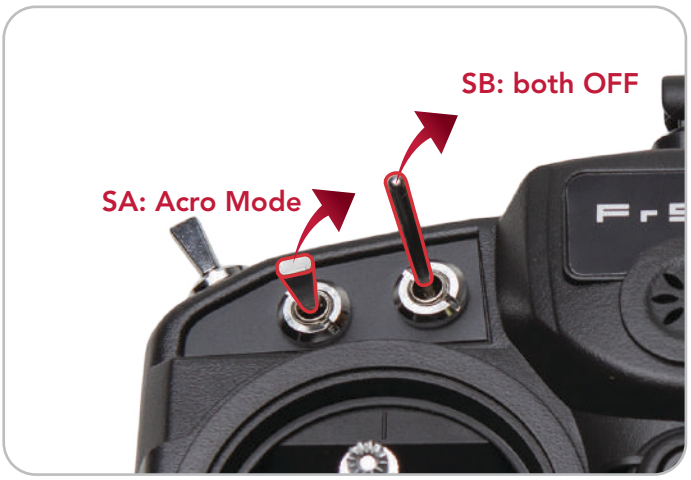
RECOMMENDED FLIGHT MODES



MAIDEN VOYAGES: Start in Altitude Hold. For an extra smooth flight, enable Position Hold shortly after lift-off.



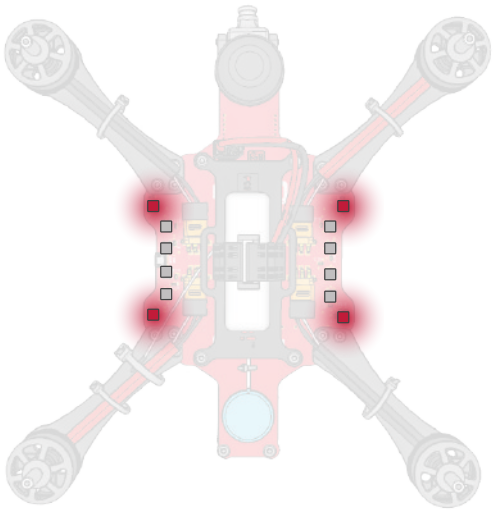
BEGINNERS: Start in Angle Mode.



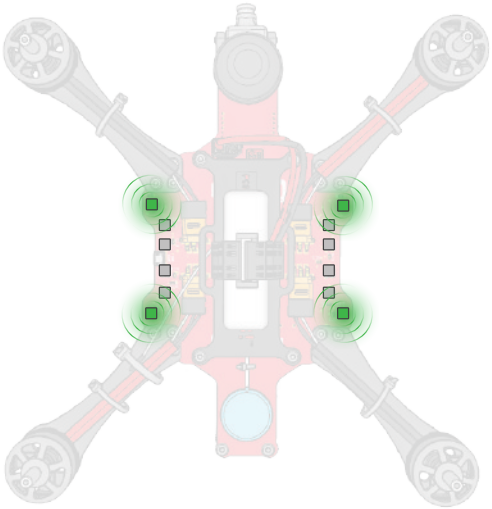
EXPERIENCED PILOTS: Start in Acro Mode.

LED COMMUNICATION

GPS:

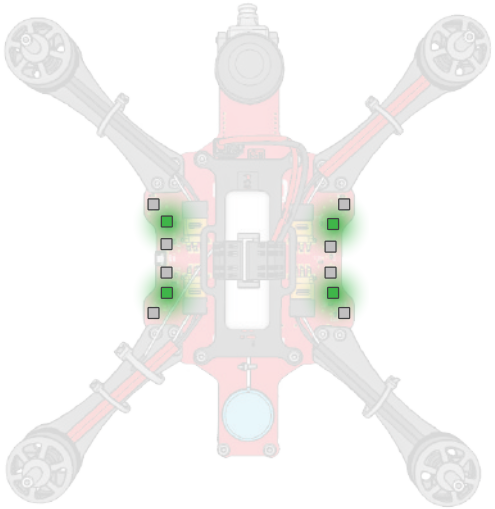


Red GPS lights (no satellites detected)

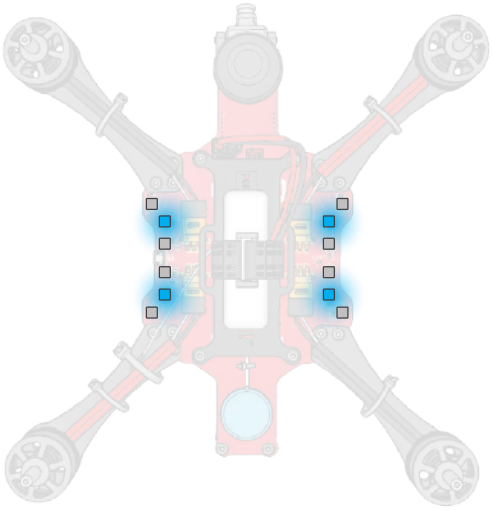


Green GPS light (number of blinks = number of satellites detected)

ARM:

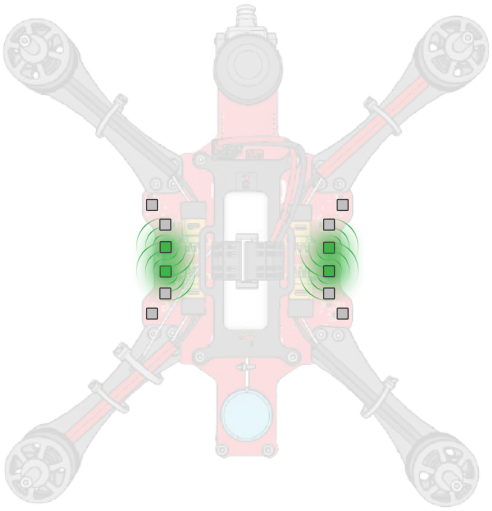


Green Arm State lights (disarmed, meaning the motors will not turn on)

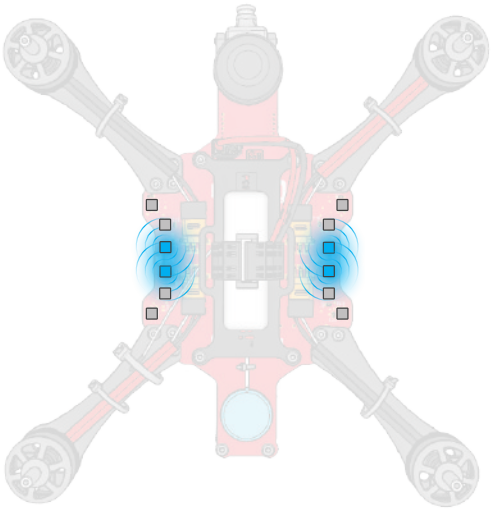


Blue Arm State lights (armed, meaning the motors are turned on)

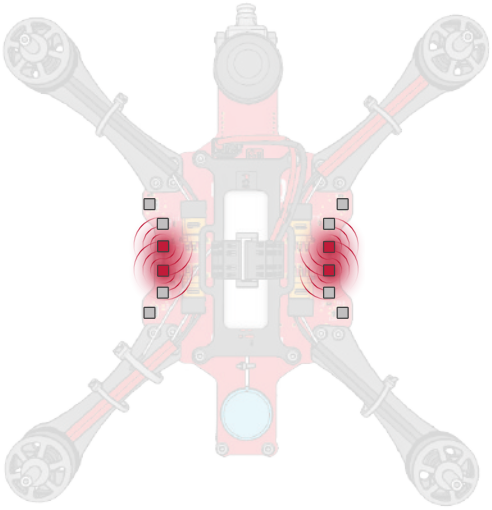
WARNINGS:



Green blink on Warning lights (Arm-lock is enabled, meaning the drone will not arm unless it has GPS lock *this is the default configuration*)



Blue blink on Warning lights (Critical hardware malfunction)



Red blink on Warning lights (Battery is low *3.5V is the default warning cell voltage*)

NOTE: The default warning cell voltage is set to 3.5V to account for the dip that can occur when the drone draws heavily on the battery during flight. When RubiQ lands and you plug in the battery to recharge, you should notice that the cells show a voltage higher than 3.5V. 3.7V or above is ideal for the overall life of your LiPo's. Since the warning cell voltage is set for flight conditions, use the RubiQ Configurator to keep an eye on the voltage when working on the bench. Recharge as soon as their cells hit 3.8V (11.4V total for Rubi's 3S battery) to maximize their total life.

FPV BANDS AND FREQUENCY CHANNELS

RubiQ's VTX transmits on Band A, which is the following set of frequencies:

	8	7	6	5	4	3	2	1	
Boscam A/TBS	5.725	5.745	5.765	5.785	5.805	5.825	5.845	5.865	GHz

The position of the dip switches on Rubi's PCB sets the frequency channel for the video feed from the camera.

	1	2	3	
CH1: 5.865 GHz	ON	ON	ON	
CH2: 5.845 GHz	ON	ON		
CH3: 5.825 GHz	ON		ON	
CH4: 5.805 GHz	ON			
CH5: 5.785 GHz		ON	ON	
CH6: 5.765 GHz		ON		
CH7: 5.745 GHz			ON	
CH8: 5.725 GHz				

If more than one drone is powered on at the same time, be sure that each is set to a unique channel to avoid video interference. At least two channels of separation are recommended when more than one drone is in the air at a time.

GUIDANCE ON IMPROVING GPS CONNECTION

In order to fly, RubiQ's GPS module must achieve what is known as a GPS lock, meaning that you must have a sufficiently strong connection to the satellites in your area in order to arm the RubiQ and take off. If you do not have a GPS lock, you will not be able to fly the RubiQ.

For a strong GPS connection, choose an open area for your flight operations that is away from buildings or other structures that may interfere with your GPS signal. Check your surroundings for the following, as they can also be sources of interference:

Trees or other overhanging objects

Cell or radio towers

Inclement weather

The GPS module will begin to search for satellites as soon as a form of power is attached to the RubiQ (generally a battery in the flight field). When you plug in the battery, RubiQ's four corner LEDs will start as red, then begin to blink with green lights for each satellite to which they connect. Count the number of flashes to know how many satellites are connected and listen for the distinctive beep pattern to indicate that GPS lock has been achieved.

When first starting out flying, it is common for the GPS to take 5-10 minutes to achieve a full lock. This is because it must identify the satellites in the area and achieve a sufficiently strong connection. If you are unable to achieve a GPS lock within the initial 5-10 minute period, please unplug the battery and reconnect it for another attempt. If a second attempt does not work, unplug the battery and move to another takeoff location that is 50+ meters away to reconnect. Be mindful of your position relative to surrounding structures – the further away, the better.

Lowering Satellite Requirement

If you are connecting to satellites, but unable to achieve GPS lock, you can use the instructions below to lower the number of satellites required for a GPS lock:

1. Go to the CLI tab of the RubiQ Configurator, located on the left-hand column.
2. Find the bottom box, where it says "Write your command here."
3. Type in the following, exactly as shown:

   set gps_min_sats=6
   (press the enter key)

   save
   (press the enter key)

4. This will save the settings and reboot the RubiQ Configurator.

Do not go any lower than 6 satellites due to the potential for GPS safety functions such as Position Hold and Return to Home not working properly.

Reporting GPS Issues

The GPS module of the RubiQ has been extensively vetted, with 100s of hours of dedicated quality control testing performed to ensure that all units are functional. Most GPS-related issues stem from local conditions and sources of interference in your surroundings. Even so, it is possible that a small percentage of units can become defective after being subjected to testing.

If you feel that you have a defective GPS or would like some guidance on the GPS lock procedures, please reach out to us at rubiq.edventures.com/support or (800) 429-3110. Our hours of operation are 8:30am to 4:30pm Mountain Time.

RUBIQ LIMITED WARRANTY

Warranty Coverage

PCS Edventures warrants each new RubiQ education drone manufactured and sold to be free from defects in material and workmanship, when used in accordance with the technical instruction provided, for a period of 6 months from the date of shipment.

Within the period of this warranty, PCS Edventures will repair or replace, free of charge, any part proving defective in material or workmanship. All expenses related to repairing or replacing a defective part under this warranty (excluding shipping) shall be assumed by PCS Edventures.

How To Obtain Warranty Service

If repairs need to be made, contact PCS Edventures at (208) 343-3110 or submit a support ticket at rubiq@edventures.com with the following information:

1. Contact person and telephone number at which they can be reached.

2. School/organization

3. Purchase order and sales order #'s

4. As complete of a description of the problem as possible.

PCS Edventures will attempt to diagnose and resolve your problem over the phone. If PCS Edventures determines that your problem cannot be resolved remotely, PCS Edventures will issue an RMA (Return Merchandise Authorization) Form to be included with the returned items. Products returned without an RMA Form may not be covered under warranty. Products must be returned properly packaged to PCS Edventures. Damage to products that occurs due to inadequate packaging will not be covered under warranty. The Customer is responsible for all shipping charges to and from PCS Edventures. If PCS Edventures determines that the damage is covered under warranty, all expenses related to repairing or replacing the defective part are covered by PCS Edventures.

If PCS Edventures determines that the problem is not covered under the warranty, PCS Edventures will advise the customer of the "not to exceed" cost of the parts, labor and return shipping.

Warranty Exclusions

This warranty does not apply to any costs, repairs or services for the following:

Damage caused by not following the technical instructions, plans and guides provided

Normal wear, including but not limited to crashes or piloting wear

Repairs resulting from misuse, abuse, accidents, alterations, improper assembly or operation above rated capacities

Damage caused by mismatch or misuse of battery and charger

Corrective work necessitated by repairs made by anyone other than a PCS Edventures authorized service technician.

Equipment or goods not manufactured by the Seller but supplied through the Seller, including but not limited to radio controllers, FPV goggles and LiPo batteries, carry the warranty of the original manufacturer.

Limitation of Damages

The Seller's sole liability under this warranty shall be limited to either replacing or repairing without charge, at its factory or elsewhere at its discretion, any equipment or goods meeting this warranty, or at seller's option, refunding the purchase price. The Seller shall in no event be liable for any other direct or any special indirect or consequential damages of any kind under this contract or otherwise. This warranty constitutes PCS Edventures' sole liability. There are no other warranties, expressed or implied, including warranties of merchantability and fitness for a particular purpose. PCS Edventures shall not be responsible for any incidental or consequential damages arising from any breach of warranty.

This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

International Shipping

International Customers are responsible for all clearance fees, duties and taxes determined by customs in addition to all shipping charges.

NOTES

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